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A NEW GENUS AND NEW SPECIES OF MIRINE PLANT BUG (HETEROPTERA: MIRIDAE: MIRINI) FROM THE RYUKYUS, JAPAN

TOMOHIDE YASUNAGA

Zoological Laboratory, Department of Science, Okayama University, Tsushima-naka 3-1-1, Okayama 700-8530, Japan (e-mail: yasunaga@cc.okayama-u.ac.jp)

Abstract.—A **new genus** of mirine plant bug, ***Neolygopsis***, is established for the **new species**, ***N. nakatai***, recently found on Ishigaki Island of the Ryukyus, Japan. The genus is considered to be a relative taxon of *Lygocoris* Reuter 1877, based on the similar shape of the male genitalia.

Key Words: Heteroptera, Miridae, new genus, new species, Ryukyus, Japan

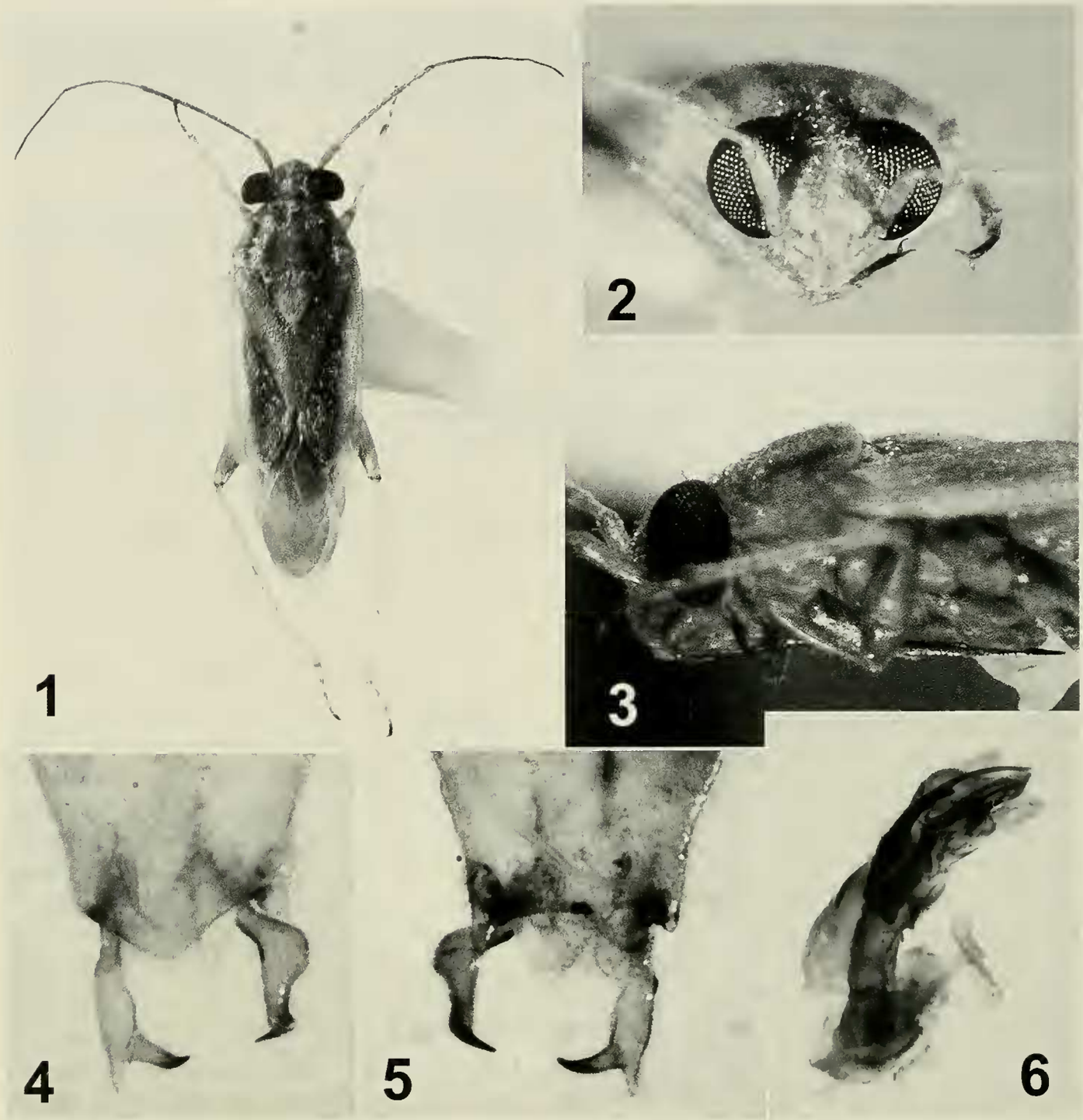
The large plant bug tribe Mirini Hahn belongs in Mirinae, the largest subfamily of the family Miridae (Schuh 1995), currently including 161 described species in 50 genera in Japan (Yasunaga 2001, Yasunaga et al. 2002). Through the courtesy of Mr. T. Nakata (JIRCAS, Subtropical Station, Ishigaki City), I obtained three specimens of a unique plant bug belonging to the tribe Mirini, recently found on Ishigaki Island of the subtropical Ryukyus. This mirid, apparently representing an undescribed species, at first sight resembles a member of the mirine genus *Stenotus* Jakovlev in having a similar color pattern and body shape, but examination of the male and female genitalia indicates that it cannot be placed in either *Stenotus* or any other known genus of the tribe Mirini. In this paper, therefore, a new genus *Neolygopsis* is proposed to accommodate the new species, *N. nakatai*.

All measurements in the text are given in millimeters. Terminology of the male genitalia mainly follows Yasunaga (1991). The type specimens are deposited in the collection of Zoological Laboratory, Faculty of Education, Okayama University, Japan (ZEOU).

Neolygopsis Yasunaga, new genus

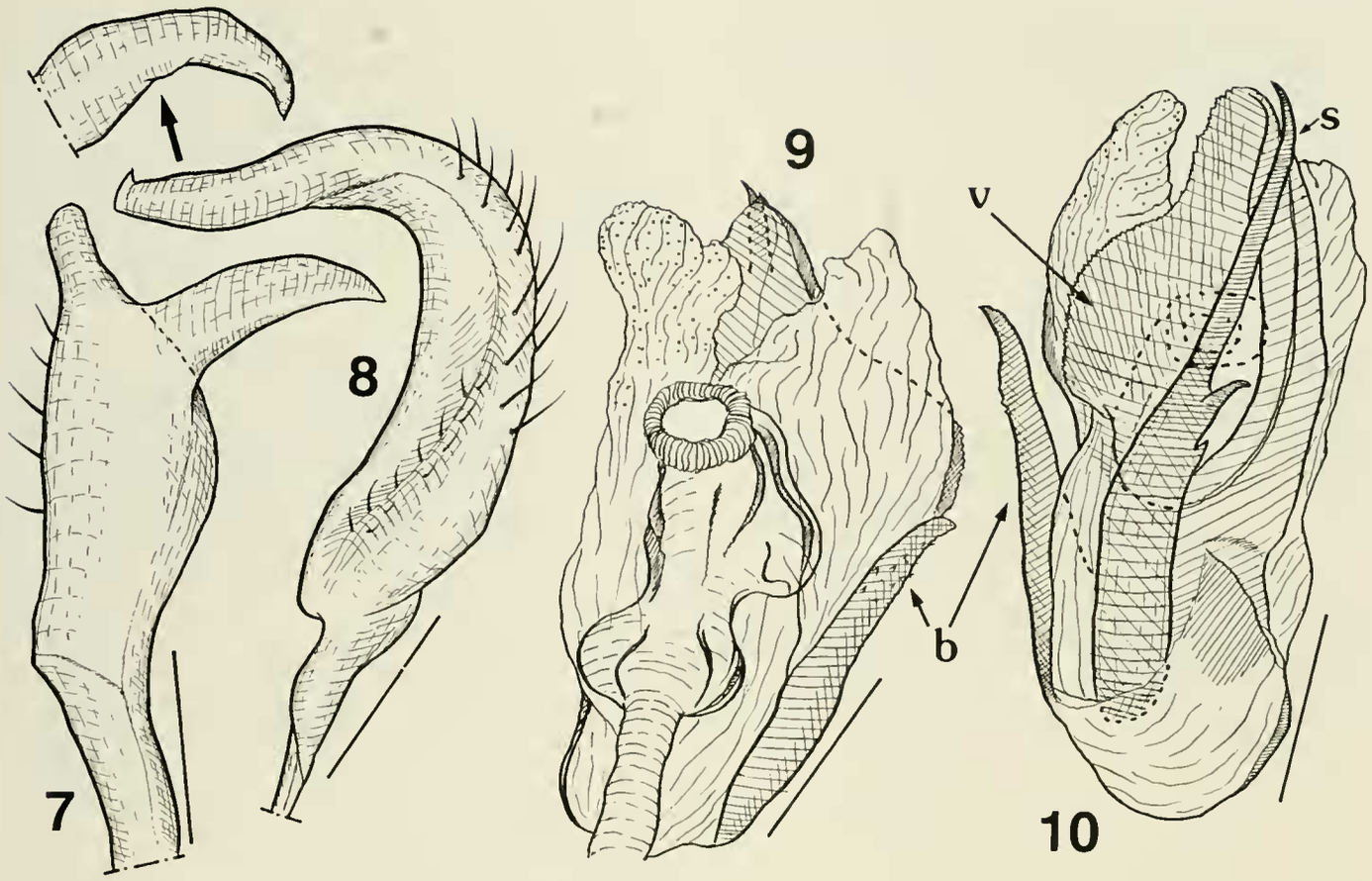
Diagnosis.—Distinguished from other genera of the tribe Mirini Hahn by comparatively small size, generally stramineous body, uniformly distributed, silvery, reclining pubescence on subshining dorsum, dark setae on head and pronotum, short antennal segment I that is shorter than eye in lateral view, long antennal segment III that is longer than IV, and several unique sclerites exhibited on vesica (Fig. 10).

Description.—Body generally stramineous, 3.6–4.0 mm in length, relatively small, slender, nearly parallel-sided; dorsal surface subshining, with uniformly distributed, silky, reclining pubescence. Head short, subvertical, with silvery, reclining pubescence and dark, erect setae; vertex narrowly margined basally, with a shallow, mesal sulcus. Antenna slender, rather short; segment II weakly narrowed at base, slightly longer than basal width of pronotum; segments III and IV filiform; segment III shorter than IV. Rostrum slightly exceeding apex of mesocoxa (Fig. 3). Pronotum shallowly rugose, with dark, short, suberect setae in addition to silky pubescence; collar flat, about as thick as base of antennal segment II; scutellum rather flat, shining,



Figs. 1–6. *Neolygopsis nakatai*. 1, Dorsal habitus of holotype male. 2, Male head in frontal view. 3, Male, in left lateral view. 4, Male genital segment with parameres in ventral view. 5, Same, in dorsal view. 6, Vesica.

weakly rugose. Hemelytra parallel-sided, not declivous at cuneal fracture. Tibiae with prominent, dark brown spines. Male genitalia: Genital segment (Figs. 4, 5) with a pair of noticeable protuberances at bases of parameres (Fig. 5). Parameres as in Figs. 4, 5, 7, 8; left paramere (Fig. 8) with broadened sensory lobe and apically hooked hypophysis; right paramere (Fig. 7) with a protuberance at apex of sensory lobe and prominent, tapered hypophysis. Vesica (Figs. 6, 9, 10) bilobate, with two distinct (ventral and basal) sclerites and a spiculum; ejaculatory duct expanded apically, guitar-shaped; gonoporal rim distinct. Female genitalia: Sclerotized rings small, situated laterally; dorsal sac with a broad, rounded sclerite mesally (Fig. 11). Posterior wall of bursae with wide lateral lobe and narrow interramal lobes (Fig. 12).



Figs. 7–10. Male genitalia of *Neolygopsis nakatai*. 7, Right paramere. 8, Left paramere. 9, Vesica in dorsal view. 10, Same, in ventral view. Scale bars = 0.1 mm. Abbreviations: b, Basal sclerite; s, spiculum; v, ventral sclerite.

Etymology.—Derived from the mirine genus *Neolygus* Knight, to which the new genus seems to be allied; gender feminine.

Type species.—*Neolygopsis nakatai* Yasunaga, new species.

Discussion.—This new genus is similar in external appearance to *Stenotus,* from which it is easily distinguished by the smaller size, dark setae and silvery pubescence on the head and pronotum, subshining dorsum, vertical head, a pair of protuberances at posterolateral apices of the male genital segment, and highly sclerotized vesica. Structures of the male genitalia suggest that the relationship between *Neolygopsis* and *Stenotus* is only superficial.

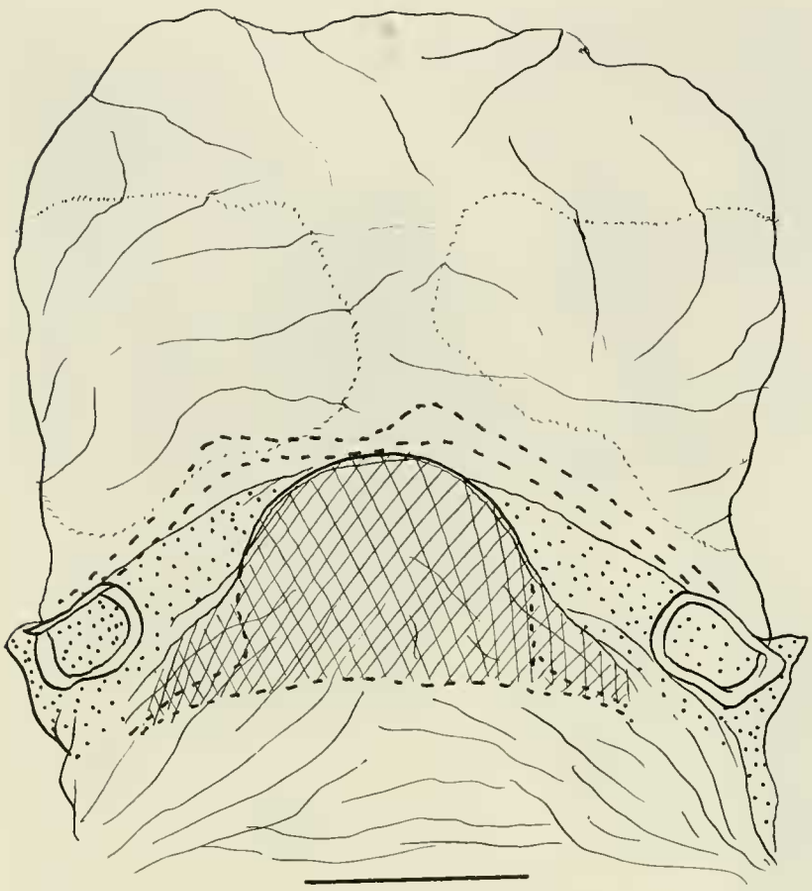
On the other hand, the shape of the parameres, the sclerites on the vesica and the posterior wall of bursae of *Neolygopsis* resemble those found in *Neolygus.* Although the new genus is readily distinguished from *Neolygus* by many generic level differences in the external structures, the similarity exhibited in the male and female genitalia appears to suggest that *Neolygopsis* is most closely related to *Neolygus* among known mirine genera.

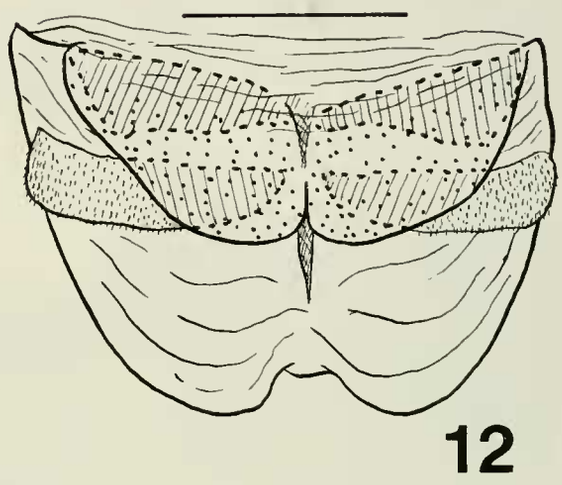
Neolygopsis is currently known by a single representative, *N. nakatai,* from subtropical Ishigaki Island of the Ryukyus.

Neolygopsis nakatai Yasunaga, new species

(Figs. 1–10)

Description.—Body generally pale stramineous, partly tinged with red or sanguineous. Head pale brown; jugum and lorum each with a sanguineous spot; tylus with a sanguineous, mesal stripe. Antenna yellowish brown; segments III and IV somewhat darkened: lengths of segments I–IV (♂/♀): 0.34–0.36/0.36, 1.19–1.22/1.30, 0.68–0.76/0.81, 0.71–0.79/0.83. Rostrum pale reddish brown; apical half of segment IV dark brown. Pronotum with 4





Figs. 11–12. Female genitalia of *Neolygopsis nakatai*. 11, Sclerotized rings and adjunct structures. 12, Posterior wall of bursae. Scale bars = 0.2 mm.

sanguineous striae; anterolateral corners of scutellum reddish. Hemelytra pale stramineous; inner margins of clavus and cuneus, and inner half of corium pale red; membrane pale grayish brown, with yellowish veins. Coxae and legs yellowish brown; coxae and femora partly pale red; extreme apices of meso- and metafemora, and extreme base (knee) of metatibia narrowly darkened; tarsi pale brown; tarsomeres III broadly darkened; lengths of metafemur, tibia and tarsus: 1.13–1.19/1.25, 1.79–1.82/1.94, 0.50–0.52/0.52; lengths of meta-tarsomeres I–III: 0.16–0.17/0.17, 0.20–0.23/0.18, 0.24–0.25/0.29. Abdomen wholly stramineous. Male and female genitalia as described for genus.

Dimensions ♂/♀: Body length 3.6–3.7/4.0; head width including eyes 0.92–0.94/0.96; vertex width 0.25–0.28/0.33; rostral length 1.42–1.46/1.47; basal pronotal width 1.08–1.14/1.22; width across hemelytra 1.21–1.23/1.43.

Holotype.—♂, Mt. Omoto-dake, Ishigaki Is., Ryukyus, Japan, 17. vi. 2002, T. Nakata (ZEOU, Type No. MR-109).

Paratypes.—1 ♂, same locality and collector except for date, 12. vi. 2002 (ZEOU); 1 ♀, same locality and collector, 28.vi.2002 (ZEOU); 3 ♂ 3 ♀, same locality and collector, 4.v.2003 (ZEOU).

Etymology.—Named for Mr. Tadafumi Nakata, who collected and offered me all available material; a noun in the genitive case.

Distribution.—Japan (Ryukyus: Ishigaki Island).

Remarks.—Because all known specimens of this new species were collected by light traps, no information is currently available on the biology.

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